REMARKS/ARGUMENTS

Claims 27-39, 41, and 49-51 were pending and examined. Applicants gratefully acknowledge the indicated allowability of claims 28-38 and 50. The claims have been amended and canceled as noted above. Reexamination and reconsideration of the claims, as amended, are respectfully requested.

With respect to the rejections under 35 U.S.C. §112, first paragraph, Applicants have amended all claims to recite "bronchial tube" rather than "terminal bronchiole." It is believed that this amendment overcomes the objection to the claims that the specification does not support the phrase "terminal bronchiole." There is ample support in the specification and the claims as originally filed for advancing the blocking element through and releasing the blocking element in the bronchial tubes of a patient. See, for example, paragraph beginning at line 9, on page 4, and claim 1 as filed. Thus, it is believed that the rejections for lack of written description support have been overcome.

Claims 27, 39, 41, 49, and 51 were further rejected as being anticipated by U.S. Patent No. 5,250,286 to Skupin. Such rejections are traversed in part and overcome in part.

The Examiner characterizes Skupin as teaching "a method of treating emphysema (col. 3, line 47) by providing a 'blocking element' (an aerosol particle of approximately 5 mm dispersed in a respiratory tract of a patient, see col. 8, lines 10-17) through the airways of the individual." The Examiner argues that such particles dispersed in the patient's airways would inherently "prohibit air from flowing through the terminal bronchiole into the airspace as the patient inhales and isolate . . . the airspace supplied by the terminal bronchiole so that the airspace deflates over time as the air in the airspace becomes absorbed. (Bronchioles are inherently about 3 mm in diameter)." Applicants respectfully disagree with this characterization.

The Skupin patent relates to delivering drugs for treating a variety of conditions, including COPD. The treatment of emphysema, however, is nowhere described, and nowhere in Skupin is it contemplated that diseases characterized by the "abnormal permanent enlargement of an airspace" of the patient are to be treated. Moreover, the imidazoline compounds of Skupin are intended to open the lung passageways to promote breathing, not to close the terminal bronchioles or other bronchial tubes in order to isolate portions of the lung. As set forth in col. 3,

beginning at line 45, the drug treatments of Skupin are intended to treat obstructive pulmonary diseases, such as cystic fibrosis, chronic bronchitis, emphysema, and COPD where it is associated with asthma. The purpose of the drug is to "increase . . . the amount of air the subject can forceably exhale in a single breath." Nowhere does Skupin ever remotely suggest blocking airway passages for any purposes.

Col. 8, lines 9-17, relied on by the Examiner, teaches only that the drug can be administered through a nebulizer that "generates very fine liquid particles of substantially uniform size in a gas." While the disclosure states that the droplets may be "about 5 mm or less in diameter", such drops would be liquid (which is inherent in the nature of a nebulizer) and would not block the bronchial tubes of the patient in any fashion that would result in isolating an airspace so that it deflates over time as the airspace becomes absorbed. Moreover, it is respectfully pointed out that no nebulizer would ever produce a droplet of 5 mm in diameter. The Examiner is asked to consider a mist consisting of droplets of 5 mm in diameter. Such particles would defy the physical laws of surface tension for all but the most viscous of liquids (at least on Earth). The figure intended in the text was almost certainly 5 μm, which size particles are well known to enter the lung and be effective in lung treatment.

Finally, while the imidazoline compounds of Skupin are referred to as "alpha-adrenergic blocking agents," such phrase does not mean that they block the lung passageways, but rather that they block the alpha-adrenergic pathway in the patient's metabolic system.

Nonetheless, in order to expedite prosecution of the present application, Applicants have amended independent claim 27 to incorporate the limitations previously set forth in dependent claim 37, which had been indicated as defining as defining patentable subject matter by the Examiner. Thus, it is believed that independent claim 27 as well as all claims dependent there on, are now in condition for allowance.

Applicants have also amended independent claim 49 in a manner similar to the amendment of claim 27. In particular, claim 49 has been amended to cite that a delivery tube is guided to a suitable location within the bronchial tube of the individual and that a material is inserted from the delivery tube to a location and released from the delivery tube into the bronchial tube. It is believed that the use of a delivery tube for delivering the occluding material overcomes the teachings of Skupin for the same reasons as with claim 27, as amended.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully request that the application be passed to issue at an early date.

If for any reason the Examiner believes that a telephone conference would in any way expedite prosecution of the subject application, the Examiner is invited to telephone the undersigned at 650-326-2400.

Respectfully submitted,

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